

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

1. (Currently Amended) A method of degrading a filter cake comprising an acid-soluble portion and a polymeric portion in a subterranean formation comprising the steps of:
introducing a filter cake degradation composition comprising
_____ a delayed-release acid component that comprises a degradable material selected from the group consisting of orthoesters, poly(orthoesters), and combinations thereof,
and
_____ a delayed-release oxidizer component
to a well bore penetrating the subterranean formation;
allowing the delayed-release acid component to release an acid derivative and the delayed-release oxidizer component to release an acid-consuming component;
allowing the acid-consuming component to interact with the acid derivative to delay a reaction between at least a portion of the acid derivative and at least a portion of the acid-soluble portion of the filter cake and to produce hydrogen peroxide;
allowing the acid derivative to degrade at least a portion of the acid-soluble portion of the filter cake after a delay period; and
allowing the hydrogen peroxide to degrade at least a portion of the polymeric portion of the filter cake.
2. (Currently Amended) The method of claim 1 wherein the acid-soluble portion of the filter cake ~~comprises~~ is selected from the group consisting of calcium carbonate, a chemically bonded ceramic bridging agent agents, or a magnesium compound compounds, and combinations thereof.
3. (Original) The method of claim 1 wherein the polymeric portion of the filter cake comprises a polysaccharide or a derivative thereof.
4. (Original) The method of claim 1 wherein the acid-consuming component comprises a peroxide.

5. (Currently Amended) The method of claim 1 wherein the acid-consuming component ~~comprises~~ is selected from the group consisting of ZnO₂, CaO₂, ~~or~~ MgO₂, and combinations thereof.

6. (Currently Amended) The method of claim 1 wherein the delayed-release oxidizer component ~~comprises~~ is selected from the group consisting of calcium oxide, zinc oxide, magnesium oxide, zinc hydroxide, calcium hydroxide, magnesium hydroxide, urea, ~~a~~ urease enzyme enzymes, ~~or a combination~~ and combinations thereof.

7. (Original) The method of claim 1 wherein the delayed-release oxidizer component comprises about 0.1% to about 4% of the filter cake degradation composition.

8. (Original) The method of claim 1 wherein the delayed-release oxidizer component comprises about 0.2% to about 1% of the filter cake degradation composition.

9. (Original) The method of claim 1 wherein at least a portion of the delayed-release oxidizer component is encapsulated by an encapsulating coating.

10. (Currently Amended) The method of claim 1 wherein the delayed-release oxidizer component ~~comprises~~ is selected from the group consisting of encapsulated ZnO₂ particulates, encapsulated CaO₂ particulates, ~~or~~ encapsulated MgO₂ particulates, and combinations thereof.

11. (Currently Amended) The method of claim 9 wherein the encapsulating coating ~~comprises~~ is selected from the group consisting of ~~a~~ partially hydrolyzed acrylic resin resins, ~~or a~~ degradable polymeric material materials, and combinations thereof.

12. (Original) The method of claim 9 wherein the encapsulating coating is present in an amount from about 10% to about 50% by weight of the encapsulated delayed-release oxidizer component.

13. (Original) The method of claim 9 wherein the encapsulating coating is present in an amount from about 20% to about 40% by weight of the encapsulated delayed-release oxidizer component.

14. (Original) The method of claim 9 wherein the encapsulated particulates have a specific gravity of at least about 2.

15. (Original) The method of claim 1 wherein the filter cake degradation composition is present in a gravel pack fluid.

16. (Currently Amended) The method of claim 15 wherein the delayed-release oxidizer component ~~may be~~ is present in an amount of from about 0.1 pounds ~~in excess of~~ to about 50 pounds per 1,000 gallons of the gravel pack fluid.

17. (Original) The method of claim 15 wherein the gravel pack fluid comprises an aqueous-based fluid and a particulate material.

18. (Currently Amended) The method of claim 15 wherein the particulate material ~~comprises~~ is selected from the group consisting of natural sand, quartz sand, particulate garnet, glass, ground walnut hulls, nylon pellets, bauxite, ceramics, ~~or~~ polymeric materials, and combinations thereof.

19. (Currently Amended) The method of claim 1 wherein the delayed-release acid component further comprises ~~an ortho ester, poly(ortho ester), aliphatic polyester, lactide, poly(lactide), glycolide, poly(glycolide), lactone, poly(ϵ -caprolactone), poly(hydroxybutyrate), anhydride, poly(anhydride), or a poly(amino acid)~~ a component selected from the group consisting of aliphatic polyesters, lactides, poly(lactides), glycolides, poly(glycolides), lactones, poly(ϵ -caprolactones), poly(hydroxybutyrates), anhydrides, poly(anhydrides), poly(amino acids), and combinations thereof.

20. (Currently Amended) The method of claim 1 wherein the delayed-release acid component further comprises an esterase enzyme.

21. (Currently Amended) The method of claim 1 wherein the delayed-release acid component further comprises a poly(lactic acid) ~~and an ortho ester.~~

22. (Original) The method of claim 1 wherein the filter cake is formed from a drill-in fluid.

23. (Original) The method of claim 1 wherein the delayed-release acid component is included in the filter cake degradation composition in an amount sufficient to react with the acid-consuming component of the delayed-release oxidizer component and then interact with the acid-soluble portion of the filter cake so as to degrade at least a portion of the acid-soluble portion of the filter cake.

24. (Original) The method of claim 1 wherein the delayed-release acid component is present in the filter cake degradation composition in an amount from about 1% to about 40% of the composition.

25. (Original) The method of claim 1 wherein the delayed-release acid component is present in the filter cake degradation composition in an amount from about 5% to about 20% of the composition.

26.- 43. (Cancelled)